

Endress+Hauser

People for Process Automation



"Critical Chain is simple, though not easy. Yet, it's worth it!"

Deadline reliability and project throughput at Endress + Hauser increased significantly

Specialists as bottleneck

Endress + Hauser GmbH & Co. KG embodies the measurement and automation technology in the process engineering industry. Endress + Hauser, founded in 1953 by Georg H. Endress and Ludwig Hauser, and since 1975 owned exclusively by the Endress family, continues to guide its customers from laboratory to production, from new material research to a finished product. The branch in Maulburg, near the German-Swiss border develops highly complex solutions for process automation. In order to remain technology and thought leader in terms of organization and processes, to meet deadlines for customers, and to live up to its own efficiency aspirations, E + H initiated a comprehensive change project. This change was to take into account the inevitability of having to deviate from the plan: deviations in development projects are completely normal and only the efficient handling of deviations can contribute to further improvement. The Heppenheim based VISTEM GmbH & Co. KG assisted with the selection of the methodological building stones, the introduction to - and the sustainable implementation of a hybrid approach to Critical Chain Project Management (CCPM) in combination with agile methodology.

A changing work environment ...

... can be treated with two kinds of "tactics": A) Leave as is and hope that the business nevertheless sustains. Or B) (certainly being the option that is more secure in the future): The company recognizes new challenges and systematically adapts its structures and way of working. E + H in Maulburg chose - under the leadership of the Head of Research and Development: Dr. Peter Selders - for the latter option. Aiming for timeliness & agility within the complex projects. Simultaneously, The department was faced with a number of challenges. On the one hand, the complexity of projects and solutions has steadily increased over the years and on the other hand, the market has become faster and innovation cycles have become shorter. Furthermore, the multi-dimensionality of customer requirements increased, not least in the course of the development of Industry 4.0.



Special requirements require special solutions

E + H launched a comprehensive change project to meet the challenges of the changing work environment head on. Not easy, as Dr. Peter Selders points out: "Our products carry critical safety levels, we use special sensors, develop our test equipment in-house, and our products must not make any mistakes. This requires huge development & production efforts; everything is interdependent and the internal linkages in-between individual disciplines is extremely high. " Although E + H had always been able to live up to - and - exceed technical requirements, the timeliness of development projects did not meet its own high standards.

Setting goals: Seeking the optimum for the whole project portfolio

The goals that E + H wanted to achieve were clear and ambitious; Increase the timeliness - for the benefit of the customer and cost minimization. "The rule is simple: 50% longer projects also cause 50% higher costs" as Peter Selders points out the challenge. "In addition, we sought to significantly increase our throughput. With the overall question being: how can we improve our performance to achieve the optimum for the entire project portfolio?"

First steps towards change

After detailed research E +H found the suitable partner - for the planning and implementation of the necessary change process - in the project management experts of VISTEM. The analysis phase helped both companies to get acquainted, both humanely and methodically. In the Strategy & Tactics Workshops, VISTEM sparred with numerous department heads from E + H. Under the motto "What should we do, with ...?" the possibilities and instruments of Critical Chain were scrutinized for the specific requirements and challenges at hand.

Initiating the project: Not everything has to be redone

New is not always better. Also when it comes to change processes, one doesn't have to get rid of all the old to introduce the new. In the past, E + H has continuously taken care of the further development of methodologies and processes. Therefore, together with VISTEM's project management experts, E + H decided on a mix ("hybrid") of methodologies and instruments.

"We have many proven solutions and together with our clients we create a fitting solution for each of our individual clients. "says Wolfram Müller, Sales Manager and Senior Implementation Manager at VISTEM, describing the customer-specific approach.



Eliminate harmful multitasking

As a first step, the number of active projects was reduced by more than half in order to avoid harmful multitasking and to create scope for implementing the change project. One of the following steps was converting the project management system and all project plans to CCPM. The transparency of CCPM allows for a clear priority system.

Unclear priorities – as VISTEM and E + H agree - cause projects to take longer than necessary, resulting in greater resource demands than expected. As a consequence this leads to a delay in the release of new products and thus, in turn, to a higher product portfolio age, together with a correspondingly higher cost of ownership. This is a vicious circle that needs to be broken with the help of a fundamentally simple procedure: "Start a process and finish it consistently. Only then start new tasks again!". " We are on the right track in the meantime, but this change does not happen overnight and we are still far from reaching the destination, "explains Dr. Peter Selders the approach and enduring need to stay focused on the ball.

Provide orientation with "Control loops"

As an easy-to-understand aid, E + H together with VISTEM introduced so-called control loops. This concept was chosen industry specific. For example, to display the project status in a transparent way on a daily basis, the project status control loop was implemented. It communicates the "operational priority on the basis of an objective project status" and is thus regarded as the most important control loop. The responsible persons give daily feedback about the remaining duration of their work package and a fever curve visualizes the current status. This way, potential problems can be detected early. If the project effectiveness index deviates from the target, measures to remove obstacles and to recover the buffer are defined.

Transparency

Other control loops include, amongst others, the project releases as well as the weekly status of the entire project portfolio. If the proportion of critical projects becomes too great, interdepartmental measures will be taken to stabilize the entire portfolio. This not only increases the deadline reliability for the project portfolio, but at the same time reduces the individual project duration and provides - almost incidentally - excellent solutions. Another control loop: Task / team management has clarified everyone's responsibility since the introduction of the new methodology. Here, the tasks from the projects are linked to and matched with the other tasks of the team, such as product care and technology development. In this way, the complete know-how of the team can be optimally used.

Clear priorities

Clear priorities for project operations - as well as the premise for rapid completion of a process without interruption - avoid the harmful multitasking at the team and employee level. Daily votes and support are required and encouraged. "When employees and team members spend 15 minutes each day to find out about the current projects and their status, E + H will demonstrably achieve better results - through communication alone ", As Müller emphasized the positive effect of the short but intensive voting rounds.

This fifth control loop; Stand-Up Innovation for daily synchronization, serves the interdepartmental exchange. All topics that cannot be solved in the departments and teams are addressed and solved here. In addition to overall efficiency and effectiveness, rapid, joint decision-making increases company

Simple basics, concentrated implementation ...

"It's always astonishing how easy the fundamentals of Critical Chain are, and that is exactly what distinguishes this concept," marvels Dr. Peter Selders still today. Yet, to be successful, it requires the utmost concentration and consistency. "Working together with a partner at eye level works very well," continues Selders. This is what E + H found in VISTEM.

The cooperation between us has continuously been productive. The CCPM experts provided advice, support and feedback, while again and again showing its limitations and support in a positive highly critical manner. "It was a good thing for us and it was a big concern for us, because ultimately only the customer himself knows how his product works, and excellent results can only be achieved if the company works well with our experts", as Müller describes the optimal procedure and working method in the sustainable implementation of change processes.

... tangible results

The extensive catalog of measures bore impressive fruit at E + H. The cooperation under the slogan "Our portfolio instead of my project" led to a fall in deadline delays from 50% to 25% within 18 months, which equates to a 50% higher deadline reliability. The throughput, as far as measurable, has increased threefold in reference to the last eight to nine years - with the same amount of resources.

„ This is more successful than anything we have ever wanted from this change process. A big surprise. Nevertheless, we have not reached our destination for the long term yet and we need to stay focused. The work on the framework conditions has helped our employees and thus us to be more successful. The newfound transparency helps everyone to participate and to help each other along the way, "Selders concludes." CCPM is simple, though not easy, yet, it is worth it! "- Dr. Peter Selders, Head of Research and Development



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